

# Challenging Cases Require Teamwork

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# History of Present Illness

- Former 32 week preemie admitted at 11 months of age
- Developed cold symptoms 1 week prior to admission
- Decreased po intake, increased WOB, sweating, decreased activity
- Was admitted to outside hospital
  - Echo demonstrates decreased LV systolic dysfunction
  - Intubated and started on Milrinone

# History of Present Illness

- Had significant lactic acidosis and elevated troponin
- Was transferred to pediatric institution
- Was electively placed on ecmo
- Went to cath lab for BAS

# History of Present Illness

- Echo demonstrates LV non-compaction with severely decreased systolic function
- Underwent transplant evaluation
- Parvo myocarditis
- Underwent placement on LVAD 19 days later

# Post-VAD

- POD#2 from VAD nurse noted neuro changes
- Head CT demonstrated ischemic stroke to right anterior cerebral artery
- Started on Heparin infusion and Aspirin
  - Maintained therapeutic Heparin level 0.3-0.7
  - Eventually Dipyridamole was added

# Post-VAD

- After much discussion anticoagulation changed from Heparin to Lovenox
  - Continued on ASA and Dipyridamole
  - Platelet mapping demonstrated adequate inhibition

# Post-VAD

- Left cerebral stroke 9/18/15
  - Switched back to Heparin; Lovenox discontinued
- Hemorrhagic stroke requiring emergent decompression of subdural hematoma 10/24/15
  - Stopped all anticoagulation for 4 days
  - Restarted Heparin with therapeutic levels
  - Remained on ASA and Dipyridamole

# Significant Neuro

- New hemorrhage in left temporal region 11/29/15
- Changed from Heparin back to Lovenox 12/10/15
- Hemorrhagic occipital infarct 12/11/15
- Remained listed 1A as he was able to recover most function after each stroke

# Teamwork was Essential

- Underwent multiple consultations
  - Neuro, Neurosurgery, Transplant, Heme, Rehab, PACCT
  - Recognizing cultural differences and appropriately supporting family
  - Consults outside our institution

# With successful teamwork comes questions...

- Why are we having so many strokes?
- How do we best image his brain?
- Should he stay on his VAD?
- Do we need to change his anticoagulation?
- Is he still a transplant candidate?

# Precarious Perch

- 10 months later...
  - Acutely developed seizures
  - Brainstem/pontine infarct 10/2016
- Most significant infarct to date
- Significant neuro deficits noted after this stroke

# What to do next?

- CT angio
  - Significant abnormalities of cerebral vasculature
  - Significant narrowing of left carotid and bilateral vertebral arteries
  - Likely congenital in nature
  - Devastating or fatal thromboembolic stroke

# CT Angio



# What to do next?

- Significant CNS complications
- Unable to undergo cardiopulmonary bypass
- No longer transplant candidate
- Underwent VAD removal 2 months later

# Discharge

- Was discharged 3 weeks after VAD removal
- Home Milrinone
- Rehab program
- Seen routinely in Heart Failure Clinic

# Hindsight is always 20/20

- Advanced head imaging sooner
- Significant changes to our anticoagulation
  - Bivalirudin infusion
  - Separate PICC line for levels
- Have had several subsequent VAD patients without *any* strokes